

REMARKS/ARGUMENTS

By way of the present amendment, claims 81-86, 89-90, 92, 94-108, 112-113, 121-130, 132, 134-137, 140, 150, 160-171, 173, 177-180, 182-190, 192-198, 200, and 202-221 and 224-235 are pending in the application; of which claims 90, 99, 112-113, 187, 189, 204-205, and 207 have been withdrawn from consideration as directed to non-elected subject matter. Claims 1-80, 87-88, 91, 93, 109-111, 114-120, 131, 133, 138-139, 141-149, 151-159, 172, 174-176, 181, 191, 199, 201 and 222-223 are cancelled. Claims 81, 181, 182, 194, 200, 212, 214, 218, 224 and 225 are amended. Claims 81-86, 89-90, 92, 94-98, 100-108, 121-130, 132, 134-137, 140, 150, 160-171, 173, 177-180, 182-186, 188, 190, 192-198, 200, 202-203, 206, and 208-235 have been rejected by the Examiner. Applicants request entry of this amendment and reconsideration of the claims given the amendments and remarks made herein.

Copending Applications

Applicants are aware of the duty of disclosure under 37 CFR § 1.56, and have complied with this duty and note the previous submission of the information disclosure statements including the supplemental information disclosure statement filed on March 18, 2009, acknowledged by the Examiner. Applicants note the following copending applications:

12/247144, filed on October, 7, 2008

11/427293, filed on June 28, 2006

11/881727, filed on July 27, 2007

11/203685, filed on August 12, 2005

11/672388, filed on February 7, 2007

11/693624, filed on March 29, 2007

If the Examiner is unable to view the image file wrapper of the above applications, the Examiner is invited to contact the undersigned.

Claim Rejections - 35 USC §112

Claims 222-225 stand rejected under 35 USC §112, first paragraph, as allegedly failing to comply with the written description requirement. Office Action page 3.

In order to expedite prosecution, claims 222-223 are cancelled such that this rejection is now moot in point.

With regards to claims 224-225, these claims have been amended and Applicants note that application of a biodegradable adhesive to the epithelium and the formation of a natural bond of the lens to Bowman's membrane are described on page 36, lines 21-27 of the application as originally filed on September 12, 2003 (hereinafter "Application"). Applicants also note that the subject matter of these amended claims is directed to a method of correcting vision, per Applicants' election of Group III with traverse in the reply filed on November 16, 2005.

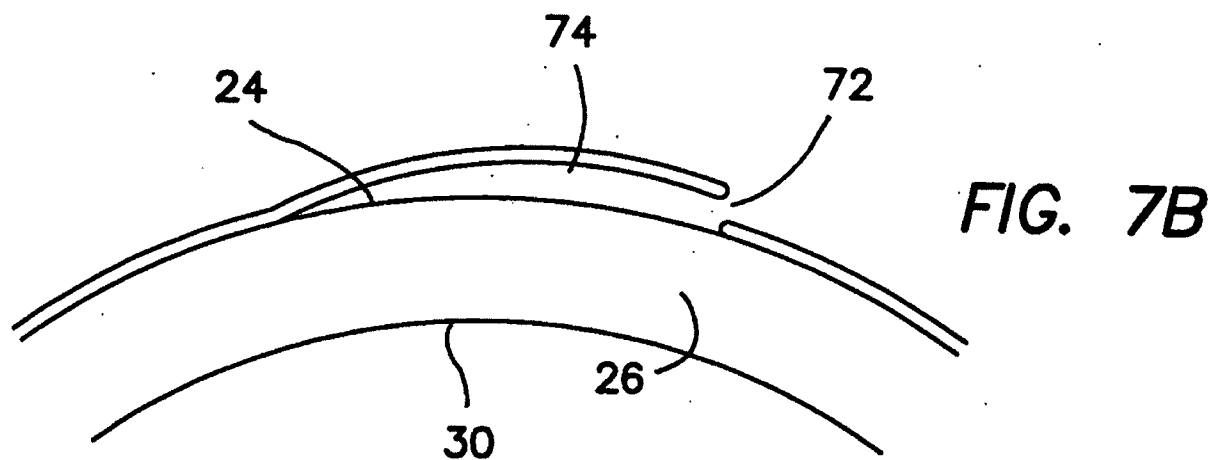
Claim Rejections - 35 USC §103

Claims 81-85, 89, 92, 94-95, 97-98, 105-106, 108, 182-183, 185, 188, 222-227, and 232-235 stand rejected under 35 USC §103(a) as allegedly obvious over WO02/06883 in the name of Perez (hereinafter "Perez WO") in view of US 7,207,998 in the name of Feingold (hereinafter "Feingold"), in further view of US 5,547,468 in the name of Simon (hereinafter "Simon") or US 4,636,210 in the name of Hoffer (hereinafter "Hoffer"). Office Action pages 4-5. Applicants respectfully traverse.

Applicants have amended claim 81 to recite, in addition to other claim elements, that the epithelial cell layer separated from the Bowman's membrane has a periphery substantially attached to the Bowman's membrane to fix a lens to the eye, and that the lens is substantially fixed on the Bowman's membrane of the eye with the epithelial cell layer.

The support use and advantages of the epithelial cell layer separated from the Bowman's membrane having a periphery substantially attached to the Bowman's membrane to fix a lens to the eye, and the lens that is substantially fixed on the Bowman's membrane of the eye with the epithelial cell layer, as recited in claim 81, can be found throughout the Application as originally filed on September 12, 2003, and in particular with reference to Figures 2, 7A to 7C and 8A to 8C, and the supporting text on pages 12-13 and 39-40. For example, Applicants note

the epithelium can be separated from Bowman's membrane to form a pocket, for example a pocket 74 between Bowman's membrane 24 as shown in Fig. 7B pasted below for the Examiners convenience. (See Application, page 38, line 32 to page 39, line 8). By inserting the ocular lens device beneath the epithelium and on Bowman's membrane, the ocular device is effectively substantially fixedly positioned with respect to the Bowman's membrane of the eye by the epithelium. (See Application, page 39, line 30 to page 40, line 2) This positioning of the onlay under the epithelium and on Bowman's membrane can improve stability of the onlay on the eye as the protective properties and integrity of Bowman's membrane are maintained. (See Application, page 12, line 32 to page 13, line 1)



Under 35 U.S.C. §103(a) a patent may not be obtained if the difference between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. (M.P.E.P. § 2141) The Supreme Court in Graham v. John Deere Co. clarified that a rejection under §103 requires that the scope and content of the prior art be determined, the differences between the prior art and the claims at issue be ascertained, and that the level of ordinary skill in the art be resolved. (383 U.S. 1, 17, 148 USPQ 459, 467 (1966)) Recently, in KSR v. Teleflex, the Court affirmed the standard of Graham and noted that “[n]either the enactment of § 103 nor the analysis in Graham disturbed this Court's earlier instructions concerning the need for caution in granting a patent based on the combination of elements

found in the prior art. (82 USPQ2d 1385, 1395, emphasis added) The Court also noted that, “[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent **reason to combine the known elements** in the fashion claimed by the patent at issue”. (82 USPQ2d, 1396, emphasis added)

With respect to the level of ordinary skill in the art, factors that may be considered in determining level of ordinary skill in the art may include: (1) "type of problems encountered in the art;" (2) "prior art solutions to those problems;" (3) "rapidity with which innovations are made;" (4) "sophistication of the technology; and" (5) "educational level of active workers in the field. (MPEP § 2141 citing In re GPAC, 57 F.3d 1573, 1579, 35 USPQ2d 1116, 1121 (Fed. Cir. 1995); Custom Accessories, Inc. v. Jeffrey-Allan Industries, Inc., 807 F.2d 955, 962, 1 USPQ2d 1196, 1201 (Fed. Cir. 1986); Environmental Designs, Ltd. V. Union Oil Co., 713 F.2d 693, 696, 218 USPQ 865, 868 (Fed. Cir. 1983))

Applicants note that the problems encountered in the art of vision correction with implanted lenses included epithelial cell migration over the onlay, securement of the onlay to the eye, and a tendency for the epithelium to grow under the corneal onlay placed over the eye and cause the onlay to be dislodged or encapsulated. (See Application, pages 2 and 3). Prior solutions to these problems included attempts to improve migration of the epithelial cells over the onlay, pores in the periphery of the onlay, and placement of an epithelial flap over the onlay. (See Id.) Applicants note that the regenerative nature of the cells of the epithelium have made permanent adherence of the onlay to the eye and permanent vision correction with the corneal onlay a difficult problem to solve. Many inventors active in the vision correction field have technical degrees, and are familiar with animal models for in vivo testing of corneal onlays and the physiology of animal and human corneas.

Applicants note that the present rejection of the invention recited in claim 81 distinguishes from the Court’s analysis of the facts in KSR where the all of the claimed elements of the invention could be found in the prior art references. The separation of the corneal epithelium from Bowman’s membrane to form an epithelial cell layer separated from Bowman’s

membrane and the use of the epithelial cell layer to substantially fix the lens to the Bowman's membrane of the eye, as recited in claim 81, is a significant and unobvious difference that cannot be found in the proposed combination of Perez in view of Feingold in further view of Simon or Hoffer.

To further explain the separation of the epithelium from Bowman's membrane, Applicants have pasted below a copy of Figure 2 from the Application.

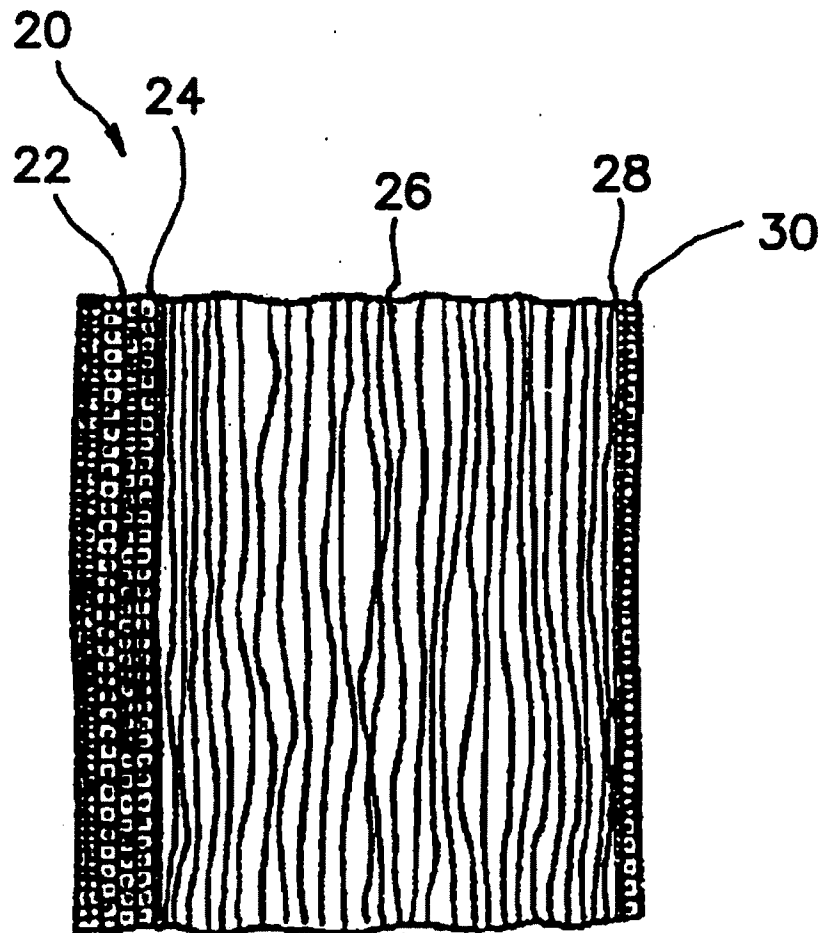


FIG. 2

As explained in the Application,

FIG. 2 is a diagram of a magnified sectional view of the cornea of the **human** eye of FIG. 1. (Application, page 8, lines 7-9, emphasis added)

FIG. 2 illustrates a magnified view of the five layers of cornea 20. Typically, cornea 20 comprises corneal epithelium 22, Bowman's membrane 24, stroma 26, Descemet's membrane 28, and endothelium 30. Corneal epithelium 22 usually is about 5-6 cell layers thick (approximately 50 micrometers thick), and

generally regenerates when the cornea is injured. Corneal epithelium 22 provides a relatively smooth refractive surface and helps prevent infection of the eye. Bowman's membrane 24 lies between epithelium 22 and the stroma 26 and is believed to protect the cornea from injury. Corneal stroma 26 is a laminated structure of collagen which contains cells, such as fibroblasts and keratocytes, dispersed therein. Stroma 26 constitutes about 90% of the corneal thickness. Corneal endothelium 30 typically is a monolayer of low cuboidal or squamous cells that dehydrates the cornea by removing water from the cornea. An adult human cornea is typically about 500 .mu.m (0.5 mm) thick and is typically devoid of blood vessels. (Application, page 12, line 23 to page 13, line 10)

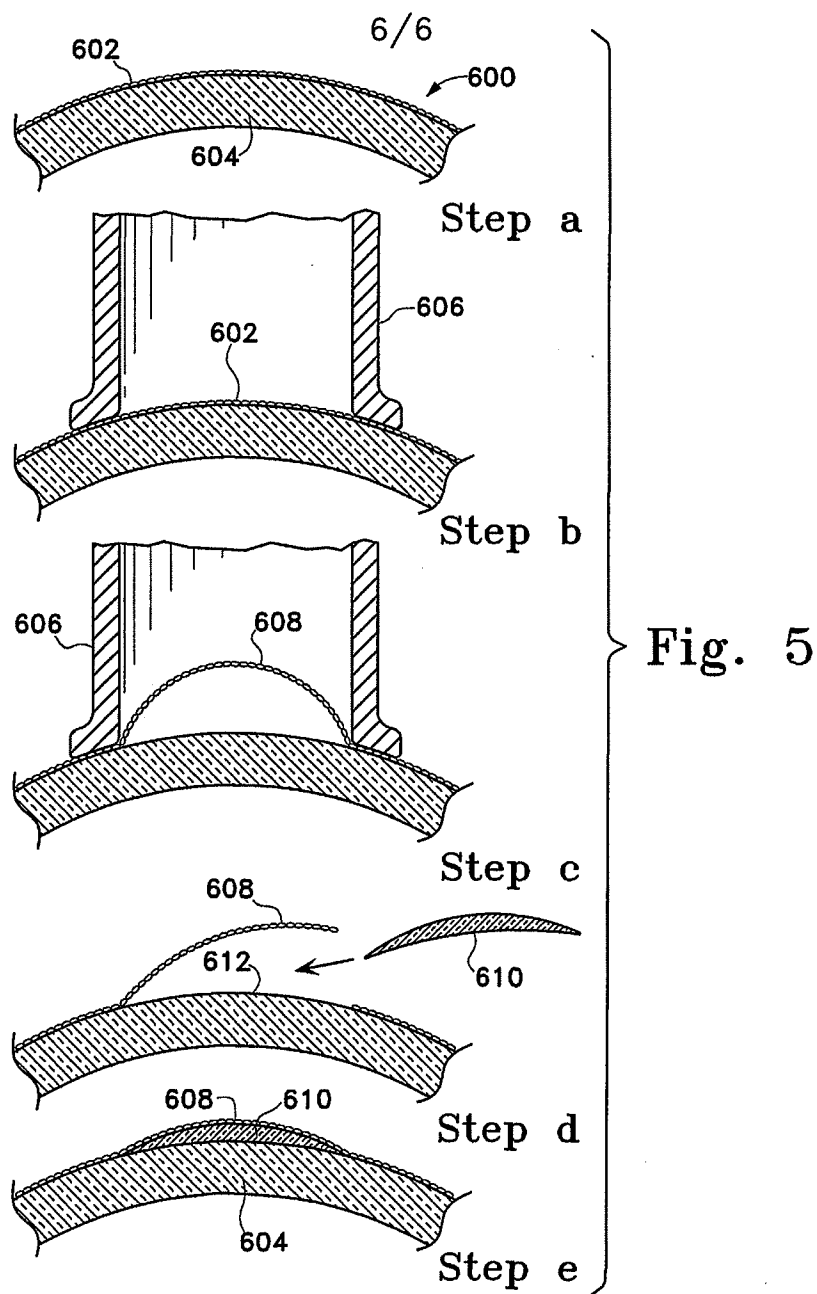
Applicants note that the human cornea has five distinct layers, one of which is Bowman's membrane, and that Bowman's membrane lies between the corneal epithelium and the corneal stroma. Applicants also note that at least some species of animals do not have a Bowman's membrane, and provide herewith a copy of an article from Wikipedia (available at http://en.wikipedia.org/wiki/Bowman's_membrane). Applicants also note that the human epithelium comprises about 5 to 6 cell layers. In contrast to the epithelium and Bowman's membrane, the stroma comprises a **laminated** structure of collagen, a connective support tissue. Applicants further note that laminated structure of collagen is composed of layers of collagen.

The Examiner has stated, "Perez teaches a method of creating a pocket between the epithelial layer of the Bowman's membrane and then inserting a lens therein before the closure thereof; see Figures 5 and page 19, lines 1-16. Office Action, page 4. Applicants respectfully disagree.

The relevant scope and content Perez is directed to creating an epithelial flap and separating the epithelium from the **margin of the stroma**, not from Bowman's membrane. For example, the text supporting Figure 5 of Perez states,

Another placement procedure variation is shown in Fig. 5. In this variation, it is preferable to use a core lens that has been only partially revitalized in that the keratocytes have been replaced but the epithelial layer has not. Of course, a core lens that has been partially covered with a seed layer of epithelial cells is also acceptable. In any event, step a. of fig. 5 shows a native eye (600) having an **epithelial layer (602) and a corneal stroma (604)**. Step b. of fig. 5 shows the placement of a suction device (606) on the anterior surface of the eye (600). The suction device (606) applies a modest vacuum to the epithelial layer (602), e. g., between about -100 mmHg and -450 mmHg, to raise a section of the

epithelial layer (602) as shown in step c. This blister (608) typically is filled with a physiologic fluid. Obviously, the suction device (606) has a footprint on the surface of the cornea similar to the size of the lens to be placed on that cornea. Step d. shows the **opened epithelial flap (608)** and the placement of the lens towards the **corneal stromal margin (612)** beneath that epithelial flap (608). Step c. of Fig. 5 shows the finished placement of the lens (610) on the cornea beneath the native epithelial membrane. (Perez, page 19, lines 1-16, emphasis added.)



Applicants have pasted Figure 5 of Perez above for the Examiner's convenience. Perez does not teach separation of the epithelium from Bowman's membrane in Figure 5 or the supporting text. A careful reading of Perez shows that Perez teaches suction to form a blister and flap (608) separated from the corneal stromal margin 612, such that Perez teaches the formation

of a blister and flap on a cornea that does not have a Bowman's membrane. As noted above, the human cornea comprises five distinct layers and that Bowman's membrane is believed to protect the human cornea from injury. (See Application, page 13, line 32 to page 14, line 1) Applicants also note that Perez is not limited to human cornea and teaches the use of corneas that do not have a Bowman's membrane, such as animal cornea. For example, Perez states, "The present invention is a pre-fabricated lens made of donor corneal tissue obtained from tissue sources such as human or animal cornea, and "[t]he lens core anterior surface is harvested preferably to retain the Bowman's membrane (where the donor lens contains one) and epithelium (302)." (Perez, page 2, lines 15-16, page 13, lines 14-16) Further, although Perez teaches that the cornea has five layers and that Bowman's membrane is a separate layer of the cornea distinct from the stroma, Perez does not include any description or reference to Bowman's membrane in Figure 5. (See Perez, page 7, line 17 to page 8, lines 2) As noted above, at least some species of animals have corneas that do not have a Bowman's membrane, for example cats and dogs, such that Perez teaches lifting of the epithelium from a cornea that does not have a Bowman's membrane.

In conclusion, the relevant scope and content of Perez are directed to separation of the epithelium from the corneal stroma to form a flap and blister, without reference to separation of the epithelium from Bowman's membrane.

With regards to the scope and content of Feingold, the Examiner has stated, "Feingold teaches that it was known to form intracorneal pockets with peripheries that are substantially attached to Bowman's membrane; see Figures 2a, 2b, and 6a-7 and column 3, lines 60-65 and column 6, lines 61-67." (Office Action, page 4) Applicants respectfully disagree.

Applicants respectfully submit that nowhere does Feingold describe Bowman's membrane, such that Feingold fails to make up for the deficiencies of Perez as noted above. Further, Feingold describes the formation of intracorneal pockets with the surgical cutting action of blades, not separation of the epithelium from Bowman's membrane. (See Feingold, col. 6, lines 14-16) Therefore, the relevant scope and content of Feingold are directed to surgical cutting to form intracorneal pockets without reference to Bowman's membrane and without reference to separation of the epithelium from Bowman's membrane.

With regards to the scope and content of Simon or Hoffer, the Examiner has relied on Simon or Hoffer as teaching “that it was known to make slits in the eye as small as possible to reduce trauma and healing time.” Office Action, page 4.

Applicants note that Simon is directed to gel injection and Hoffer is directed to an intraocular lens. Neither Simon nor Hoffer teach separation of the epithelium from Bowman’s membrane to form an epithelial layer nor that the lens substantially fixed to the eye with the epithelial cell layer, as recited in claim 81, such that these references fail to overcome the deficiencies of Perez and Feingold as noted above.

Significant and unobvious differences exist between the scope and content of the proposed combination of Perez in view of Feingold in further view of Simon or Hoffer and the invention of claim 81, as claim 81 recites separation of the corneal epithelium from Bowman’s membrane to form an epithelial cell layer separated from Bowman’s membrane and the use of the epithelial cell layer to substantially fix the lens to the Bowman’s membrane of the eye. The proposed combination of Perez in view of Feingold in further view of Simon or Hoffer does not teach separation of the epithelium from Bowman’s membrane to form a layer of epithelium. Further, these references do not teach that the lens is substantially fixed on the Bowman’s membrane of the eye with the epithelium. Perez teaches the formation of a blister (608) and a flap (608) above the stromal margin, such that the blister and flap of Perez are incapable of substantially fixing the lens to the Bowman’s membrane of the eye with the epithelium as recited in claim 81. Further, Feingold fails to describe Bowman’s membrane nor the lens substantially fixed on the Bowman’s membrane of the eye. Finally, merely to decrease the size of an incision as taught by Simon and Hoffer fails to make up for the deficient teachings of Perez and Feingold.

In conclusion, significant and unobvious differences exist between the lens substantially fixed on the Bowman’s membrane eye with the epithelial cell layer, as recited in claim 81, and the scope and content of the proposed combination of Perez in view Feingold in further view of Simon or Hoffer.

Independent claim 194 is allowable for at least reasons similar to claim 81. Claims 82-85, 89, 92, 94-95, 97-98, 105-106, 108, 182-183, 185, 188 and 224-227 depend on

claim 81 and are allowable for at least reasons similar to claim 81. Claims 222-223 are cancelled such that the rejection of these claims is now moot in point.

With regards to claims 232-235 dependent on claim 81, Applicants note that **no substantive reasons were given for the rejection of these claims**. In addition to being allowable for reasons similar to claim 81, Applicants note that nowhere does the proposed the proposed combination of Perez in view Feingold in further view of Simon or Hoffer describe or suggest that the lens can be held in a fixed positioned by the epithelium to maintain an orientation of the lens on the eye to correct vision.

Claims 96, 100-102, 150, 178-179, and 184 stand rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, and Hoffer as applied to claims 81-85, 89, 92, 94-95, 97-98, 105-106, 108, 182-183, 185, and 188 as applied above, and further in view of US 4,959,353 in the name of Brown et al. (hereinafter "Brown"). Office Action pages 5-6.

Claims 96, 100-102, 150, 178-179, and 184 depend on claim 81 and are allowable for at least reasons similar to claim 81.

Claims 121-123, 126, 132, 140, 160, 163-166, 173, and 192 stand rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, and Hoffer as applied to claims 81-85, 89, 92, 94-95, 97-98, 105-106, 108, 182-183, 185, and 188 above, and further in view of US 6,335,006 in the name of Miller (hereinafter "Miller"). Office Action page 6.

Claims 121-123, 126, 132, 140, 160, 163-166, 173, and 192 depend on claim 81 and are allowable for at least reasons similar to claim 81.

Claims 124-125, 134-137, 161-162, and 193 stand rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, Hoffer, and Miller as applied to claims 121-123, 126, 132, 140, 160, 163, 165-166, 173, and 192 above, and further in view of US 2003/0220653 in the name of Perez (hereinafter "Perez US"). Office Action pages 6-7.

Claims 124-125, 134-137, 161-162, and 193 depend on claim 81 and are allowable for at least reasons similar to claim 81.

Claim 171 stands rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, Hoffer, and Miller as applied to claims 121-123, 126, 132, 140, 160, 163-166, 173, and 192 above, and further in view of US 2004/0015234 in the name of Peyman (hereinafter "Peyman"). Office Action page 7.

Claim 171 depends on claim 81 and is allowable for at least reasons similar to claim 81.

Claim 177 stands rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, Hoffer, and Miller as applied to claims 121-123, 126, 132, 140, 160, 163-166, 173, and 192 above, and further in view of US 4,959,353 in the name of Brown (hereinafter "Brown"). Office Action pages 7-8.

Claim 177 depends on claim 81 and is allowable for at least reasons similar to claim 81.

Claims 180, 194-196, 200, 202, 206, and 209 stand rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, and Hoffer as applied to claims 81-85, 89, 92, 94-95, 97-98, 105-106, 108, 182-183, 185, and 188 above, and further in view of US 5,984,914 in the name of Cumming (hereinafter "Cumming"). Office Action page 8.

Claim 180 depends on claim 81 and is allowable for at least reasons similar to claim 81. Independent claim 194 is allowable for at least reasons similar to claim 81. Claims 195-196, 200, 202, 206, and 209 depend on claim 194 and are allowable for at least reasons similar to claim 194.

Claim 211 stands rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, Hoffer, and Cumming as applied to claim 194 above, and further in view of US 6,361,560 in the name of Nigam (hereinafter "Nigam"). Office Action page 8.

Claim 211 depends on claim 194 and is allowable for at least reasons similar to claim 194.

Claim 107 stands rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, and Hoffer as applied to claim 81 above, and further in view of US 2004/0015234 in the name of Peyman (hereinafter "Peyman"). Office Action page 9.

Claim 107 depends on claim 81 and is allowable for at least reasons similar to claim 81.

Claims 197-198 stand rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, Hoffer, and Cumming as applied to claim 194 above, and further in view of US 2003/0220653 in the name of Perez (hereinafter "Perez US"). Office Action page 9.

Claims 197-198 depend on claim 194 and are allowable for at least reasons similar to claim 194.

Claims 186 and 190 stand rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, and Hoffer as applied to claim 81 above, further in view of US 2002/0039788 in the name of Isseroff et al. (hereinafter "Isseroff"). Office Action pages 9-10.

Claims 186 and 190 depend on claim 81 and are allowable for at least reasons similar to claim 81.

Claims 203 and 208 stand rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, Hoffer, and Cumming as applied to claim 194 above, and further in view of Isseroff. Office Action page 10.

Claims 203 and 208 depend on claim 194 and are allowable for at least reasons similar to claim 194.

Claim 210 stands rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, Hoffer, and Cumming as applied to claim 194 above, and further in view of US 4,959,353 in the name of Brown (hereinafter "Brown"). Office Action page 10.

Claims 210 depends on claim 194 and is allowable for at least reasons similar to claim 194.

Claim 86 stands rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, and Hoffer as applied to claim 81 above, and further in view of US 4,983,181 in the name of Civerchia (hereinafter "Civerchia"). Office Action page 11.

Claim 86 depends on claim 81 and is allowable for at least reasons similar to claim 81.

Claims 103-104 stand rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, and Hoffer as applied to claim 81 above, and further in view of US 5,587,175 in the name of Viegas et al. (hereinafter “Viegas”). Office Action page 11.

Claims 103-104 depend on claim 81 and are allowable for at least reasons similar to claim 81

Claims 212-213 stand rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, and Hoffer in view of US 5,587,175 in the name of Viegas et al. (hereinafter “Viegas”). Office Action pages 11-12.

Independent claim 212 is allowable for reasons similar to claim 81. Claim 213 depends on claim 212 and is allowable for at least reasons similar to claim 212.

Claims 127-130, 167-170, and 214-221 stand rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, Hoffer, and Miller as applied to claims 121-123, 126, 132, 140, 160, 163, 165, 166, 173, and 192 above, and further in view of Viegas. Office Action page 12.

Claims 127-130, 167-170 depend on claim 81 and are allowable for at least reasons similar to claim 81. Independent claims 214 and 218 are allowable for at least reasons similar to claim 81. Claims 215-217 and 219-221 depend on claims 214 and 218, respectively, and are allowable for at least reasons similar to claims 214 and 218.

Claim 228 stands rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, and Hoffer as applied to claim 81 above, and further in view of US 6,241,766 in the name of Liao et al. (hereinafter “Liao”) or US 2001/0018612 in the name of Carson et al. (hereinafter “Carson”). Office Action page 12.

Claim 221 depends on claim 81 and is allowable for at least reasons similar to claim 81.

Claims 229-231 stand rejected under 35 USC §103(a) as allegedly unpatentable over Perez WO, Feingold, Simon, and Hoffer as applied to claim 81 above, and further in view of US 6,702,807 in the name of Peyman (hereinafter “Peyman”). Office Action page 13.

Claims 229-231 depend on claim 81 and are allowable for at least reasons similar to claim 81.

Appl. No. 10/661,400
Amdt. dated October 7, 2009
Reply to Office Action of April 7, 2009

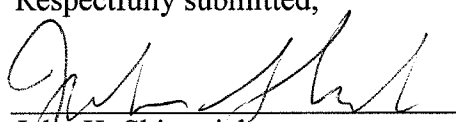
PATENT

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,


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Bowman's membrane

From Wikipedia, the free encyclopedia

The **Bowman's membrane** (**Bowman's layer**, **anterior limiting lamina**, **anterior elastic lamina**) is a smooth layer in the eye. It is located between the front epithelium and the stroma in the cornea. It is composed of strong collagen fibers and helps the cornea maintain its shape. If the Bowman's membrane is damaged, scarring would normally occur.

In adult humans, this layer is 8-12 μm thick.^[1]

Bowman's layer is absent in cats, dogs, and other carnivores.^[2]

The Bowman's membrane is named after Sir William Bowman (1816 - 1892), an English physician, anatomist and ophthalmologist, who discovered this membrane.

See also

- Refractive surgery
- Descemet's membrane

References

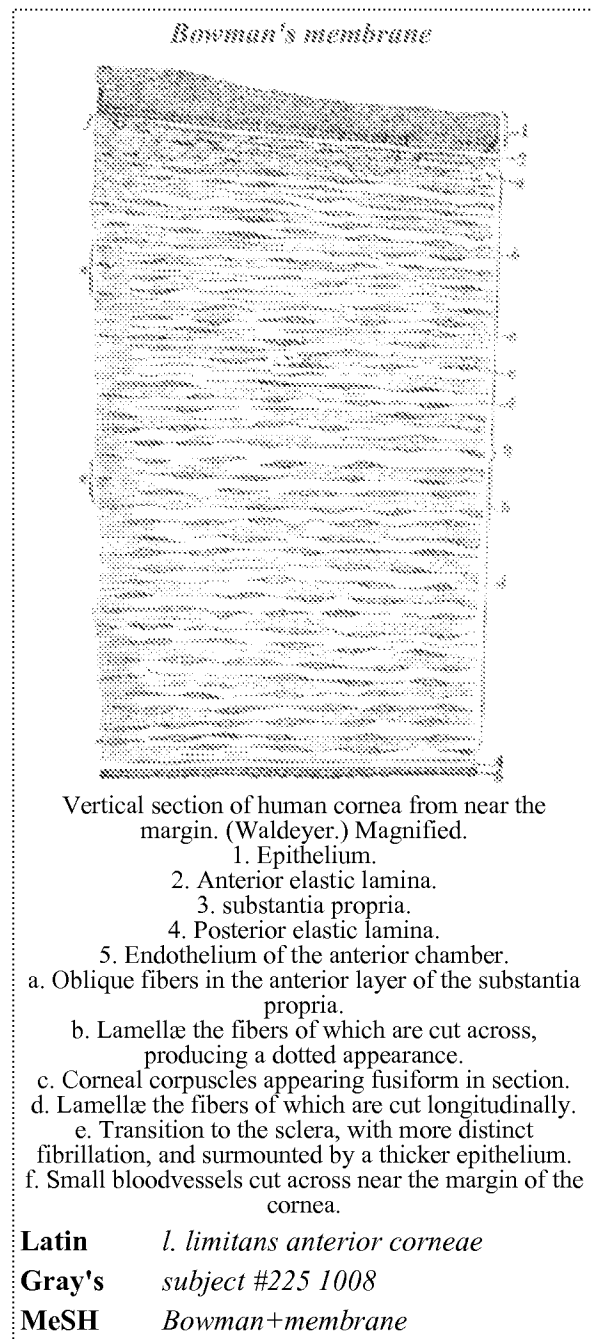
- ↑ Hogan MJ, Alvarado JA, Weddell E: Histology of the Human Eye. Philadelphia: WB Saunders, 1971
- ↑ Merindano MD; Costa J; Canals M; Potau JM, and Ruano D. "A comparative study of Bowman's layer in some mammals: Relationships with other constituent corneal structures." *European Journal of Anatomy*. Volume 6, Number 3, December 2002.

External links

- Histology at BU *08002loa*
- Diagram at sheinman.com
- Diagram at cornea_crosssection_en.jpg

Retrieved from "http://en.wikipedia.org/wiki/Bowman%27s_membrane"

Categories: Eye | Eye stubs



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